

REMARKS

Claims 1-20 are currently pending in this application. Claim 20 has been amended to correct a word omission. Applicants have carefully reviewed the final Office Action and respectfully request reconsideration of the claims in view of the remarks presented below.

Response to Arguments

In the Office Action of January 4, 2006, a request for information under 37 C.F.R. 1.105 was presented by the Examiner. In this request, the Examiner stated that "[a]fter reviewing the specification, the disclosure seems to indicate that some energy of the T-wave is used to determine ischemia and, therefore, detection of ischemia would also require some T-wave detection to be necessary. Is this correct?" (Emphasis added.) In response to the request, Applicant stated that T-wave detection was not necessary. Applicant further stated that "depending on the integers used [in equations], it is possible that a portion of a T-wave may be included in the segment and thus included in the energy calculation." (Emphasis added.)

In the present Office Action, the Examiner has used Applicants' statements to support a claim interpretation that not only imparts contradictory language into Applicants' plain-language claims, but one that also necessitates §112 rejections. Specifically, it appears that the examiner has interpreted Applicants' claimed segment or portions of the cardiac signals subsequent to a ventricular repolarization and prior to the ventricular depolarization following the ventricular repolarization in two different ways. First, in the §112, first paragraph rejection, it is interpreted as a segment that is "both subsequent to and may include a T-wave." (Emphasis added.) In all other rejections, it is interpreted as a segment that is "either subsequent to or including the T-wave." (Emphasis added.) Applicants submit such interpretations are improper for the following reasons.

First, Applicants statements made in response to the above quoted request for information by the Examiner were intended to correct what was perceived by Applicants

as a misunderstanding by the Examiner of the teachings of the specification, *i.e.*, that T-wave detection is necessary for ischemia detection. Applicants' statements were made for that purpose alone and not for the purposes of claim interpretation.

Second, as a point of clarification, Applicants' statement that "[d]epending on the integers used [in equations], it is possible that a portion of a T-wave may be included in the segment and thus included in the energy calculation" was meant to acknowledge the fact that because of the variables M and N in the equations disclosed in the specification it would be possible for one of less than ordinary skill in the art to obtain a segment that falls outside the claim language, *i.e.*, one that includes part of a cardiac signal that includes or is prior to a ventricular repolarization. Of course, one of ordinary skill in the art, wishing to practice Applicants' claims would know to choose integers that result in the segments or portions that satisfy the claim language.

Finally – and most importantly – the claims unambiguously recite the use of segments or portions of cardiac signals subsequent to a ventricular repolarization and prior to the ventricular depolarization following the ventricular repolarization to detect ischemia. By their plain language, these claimed segments or portions exclude T-waves. Further in this regard, as a general matter, the broadest reasonable interpretations of the claims must be consistent with the interpretations that those skilled in the art would reach. That said, Applicants submit that one of ordinary skill in the art, wishing to practice the claims, would not interpret Applicants' claimed segment or portion in the contradictory manner applied by the Examiner.

Claim Rejections Under 35 U.S.C. §112

Claims 1-20 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement because they contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or to which it is most nearly connected, to make and/or use the invention. Claims 1-20 were also rejected under 35 U.S.C. §112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

In view of the remarks presented above in the "Response to Arguments" section, Applicants submit that when properly interpreted, the claims are both enabled and definite.

Claim Rejections Under 35 U.S.C. §102

Claims 1, 2, 13, 15, 17 and 18 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,381,493 (Stadler).

In view of the remarks presented above in the "Response to Arguments" section, Applicants submit that Stadler fails to disclose the combinations of elements and features recited in independent claims 1, 17 and 18, including detection of cardiac ischemia based on energy values of identified segments of the cardiac signals subsequent to a ventricular repolarization and prior to the ventricular depolarization following the ventricular repolarization. Accordingly, Applicants request reconsideration of the §102 rejections of these claims and their respective dependent claims.

Claim Rejections Under 35 U.S.C. §103

Claim 14 was rejected under 35 U.S.C. §103(a) as being unpatentable over Stadler.

In view of the foregoing analysis of independent claim 1 and dependent claim 13 in view of Stadler, Applicants believe that the §103 rejection of dependent claim 14 is moot as it depends from an allowable intervening claim and base claim.

Claims 3, 4, 7, 16, 19 and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Stadler in view of U.S. Patent No. 5,213,106 (Lerner).

In view of the remarks presented above in the "Response to Arguments" section, Applicants submit that neither Stadler nor Lerner, either alone or in combination, fail to disclose the elements and features recited in independent claims 3, 16, 19 and 20,

including the detection of cardiac ischemia based on total energy values of, or sharp falling edges in, identified segments of the cardiac signals subsequent to a ventricular repolarization and prior to the ventricular depolarization following the ventricular repolarization. Accordingly, Applicant requests reconsideration of the §103 rejections of these claims and their respective dependent claims.

Claims 5 and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Stadler in view of Lerner and further in view of U.S. Patent No. 5, 560,368 and further in view of (Berger). Claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over Stadler in view of Lerner and further in view of U.S. Patent No. 6,609,023 (Fischell). Claims 9 and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Stadler in view of Lerner and further in view of U.S. Patent Publication 2003/0153956 (Park). Claims 11 and 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Stadler in view of Lerner and further in view of U.S. Patent Publication 2003/0208129 (Beker).

In view of the foregoing remarks regarding independent claim 3 in view of Stadler and Lerner, Applicants believe that the §103 rejections of dependent claims 5, 6 and 8-12 are moot as each of these claims depends from an allowable intervening claim and/or base claim.

CONCLUSION

Applicants have made an earnest and bona fide effort to clarify the issues before the Examiner and to place this case in condition for allowance. Therefore, reconsideration and allowance of Applicants' claims 1-20 are believed to be in order.

Respectfully submitted,

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Date


David S. Sarisky
Attorney for Applicant,
Reg. No. 41,288
818-493-3369

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